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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/712,693	11/13/2003	Peter Jung	L&L-I0028	9112

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EXAMINER

NGUYEN, TUAN HOANG

ART UNIT	PAPER NUMBER
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2618

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/29/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/712,693

Applicant(s)

JUNG ET AL.

Examiner

Tuan H. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 October 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed on 10/31/2006 have been fully considered but they are not persuasive.

In response to Applicant's remark on pages 12-15, Applicant argues that Motoyasu et al. (Japan Publication Number 2001-77723, which is translated by Australian Patent Application No. AU 200056498 hereinafter, "Motoyasu") reference cited by the Examiner does not teach or suggested a RAKE receiver structure is used for joint detection and providing the RAKE receiver structure to have a fixed time offset between the RAKE fingers. Examiner respectfully disagrees with the Applicant argument. Applicant should refer to Motoyasu reference (fig. 2 page 9 lines 8-12) where as the Examiner interpreted a RAKE receiver structure is used for joint detection, and (page 8 lines 9-12) where as the Examiner interpreted providing the RAKE receiver structure to have a fixed time offset (10 msec.) between the RAKE fingers. Therefore, the teaching of the prior art references still read on.

Base on the above rational, it is believed that the claimed limitations are met by the references submitted and therefore, the rejection are maintained.

Claim Rejections - 35 USC § 102

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2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

3. Claims 1-2, 8-9, 13, and 18-19 are rejected under 35 U.S.C. 102(a) as being anticipated by Motoyasu et al. (Japan Publication Number 2001-77723, which is translated by Australian Patent Application No. AU 200056498 hereinafter, "Motoyasu").

Consider claim 1, Motoyasu teaches a method for joint detection (see fig. 2 page 9 lines 8-12) using a RAKE receiver structure, which comprises the step of: a method for joint detection using a RAKE receiver structure, which comprises the step of: providing the RAKE receiver structure to have a fixed time offset between the RAKE fingers (see fig. 8 page 1 lines 9-28); mapping a joint detection system matrix onto the RAKE receiver structure by allocating each of the RAKE fingers to a defined section of the joint detection system matrix (see fig. 8 page 1 lines 9-28); and deactivating at least one of the RAKE fingers for reducing power consumption of the RAKE receiver structure during operation (page 3 lines 6-16).

Consider claims 8 and 13, Motoyasu teaches a RAKE receiver structure for multi-subscriber detection, comprising: rake fingers (see fig. 1 page 7 lines 13-19); and a switch connected to and deactivating at least one of RAKE fingers for reducing power consumption during operation (page 3 lines 6-16).

Consider claims 2 and 9, Motoyasu further teaches measuring energy levels of signals associated with RAKE fingers; and determining which of RAKE fingers are to be deactivated, in dependence on the energy levels measured (page 11 lines 24-27).

Consider claim 18, Motoyasu teaches a method for joint detection using a RAKE receiver structure, which comprises the step of: providing the RAKE receiver structure to have a fixed time offset between RAKE fingers (see fig. 8 page 1 lines 9-28); mapping a joint detection system matrix onto the RAKE receiver structure by allocating each of the RAKE fingers to a defined section of the joint detection system matrix (see fig. 8 page 1 lines 9-28 and fig. 2 page 9 lines 8-12).

Consider claim 19, Motoyasu teaches a RAKE receiver structure, comprising: RAKE fingers configured to have a fixed time offset (see fig. 8 page 1 lines 9-28); and a mapping unit configured to map a joint detection system matrix onto the RAKE receiver structure by allocating each of said RAKE fingers to a defined section of the joint detection system matrix (see fig. 8 page 1 lines 9-28 and fig. 2 page 9 lines 8-12).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

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the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 3-5, 10 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Motoyasu in view of Iyer (U.S. PAT. 7,031,373).

Consider claim 3, Motoyasu teaches a method for multi-subscriber detection using a RAKE receiver structure having a fixed time offset between the RAKE fingers.

Motoyasu does not explicitly show that determining a value of an assessment variable which is characteristic of a quality of service of a detected signal; and determining a number of active RAKE fingers in dependence on a the value of the assessment variable.

In the same field of endeavor, Iyer teaches determining a value of an assessment variable which is characteristic of a quality of service of a detected signal; and determining a number of active RAKE fingers in dependence on a the value of the assessment variable (col. 3 lines 25-41).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use, determining a value of an assessment variable which is characteristic of a quality of service of a detected signal; and determining a number of active RAKE fingers in dependence on a the value of the assessment variable, as taught by Iyer, in order to provide for controlling multiple receiver fingers, and more particularly to CDMA receivers in a wireless communication system that have a plurality of receiver fingers for receiving a plurality of different channel types.

Consider claim 4, Iyer further teaches forming the assessment variable as a bit error rate (BER) (col. 4 lines 38-50).

Consider claim 5, Iyer further teaches the method is used in a mobile station in a mobile radio system (col. 2 lines 34-37).

Consider claims 10 and 15, Iyer further teaches determining an assessment variable which is characteristic of a quality of service of a detected signal (col. 3 lines 25-41); and determining which of RAKE fingers are to be deactivated, in dependence on a determined assessment variable (col. 2 lines 27-37).

6. Claims 6-7, 11-12, 14 and 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Motoyasu in view of Misra et al. (U.S PAT. 6,831,944 hereinafter, "Misra"):

Consider claims 6, 11, and 16, Motoyasu teaches a method for multi-subscriber detection using a RAKE receiver structure having a fixed time offset between the RAKE fingers.

Motoyasu does not explicitly show that a calculating unit coupled to rake fingers for calculating joint detection equalizer coefficients for ZF equalization of received signals.

In the same field of endeavor, Misra teaches a calculating unit coupled to rake fingers for calculating joint detection equalizer coefficients for ZF equalization of received signals (col. 1 lines 37-44).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use, a calculating unit coupled to rake fingers for calculating joint detection equalizer coefficients for ZF equalization of received signals, as taught by Misra, in order to provide a plurality of transmitted data signals are received at a receiver.

Consider claims 7, 12, and 17, Misra further teaches calculating joint detection equalizer coefficients for MMSE equalization of received signals.

Consider claim 14, Motoyasu teaches control and assessment unit measuring energy levels of signals associated with RAKE fingers (page 11 lines 24-27), control and assessment unit determining which of RAKE fingers are to be deactivated, in dependence on the energy levels measured (page 12 lines 3-16).

Motoyasu does not explicitly show that a channel estimator coupled to rake fingers; and a control and assessment unit coupled to rake fingers, channel estimator.

In the same field of endeavor, Misra teaches a channel estimator coupled to rake fingers (col. 2 lines 36-42); and a control and assessment unit coupled to rake fingers, channel estimator (col. 2 lines 49-56).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use, a channel estimator coupled to rake fingers; and a control and assessment unit coupled to rake fingers, channel estimator, as taught by Misra, in order to provide a plurality of transmitted data signals are received at a receiver.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Any response to this action should be mailed to:

Mail Stop_____ (Explanation, e.g., Amendment or After-final, etc.)

Commissioner for Patents

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P.O. Box 1450

Alexandria, VA 22313-1450

Facsimile responses should be faxed to:

(571) 273-8300

Hand-delivered responses should be brought to:

Customer Service Window

Randolph Building

401 Dulany Street

Alexandria, VA 22313

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan H. Nguyen whose telephone number is (571)272-8329. The examiner can normally be reached on 8:00Am - 5:00Pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Maung Nay A. can be reached on (571)272-7882882. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

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Information Consider the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

^{T.P.}
Tuan Nguyen
Examiner
Art Unit 2618


NAY MAUNG
SUPERVISORY PATENT EXAMINER